

THE EFFECTS OF RIVALRY ON CONSPICUOUS CONSUMPTION

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ABSTRACT

Two studies examined how interpersonal rivalries affect individuals' consumption propensities. The current research suggests that comparing poorly to a rival is an aversive state that people seek to compensate for by signaling that they are at par with (or better than) their rivals. One means by which people may compete with their rivals is to engage in conspicuous consumption, that is, the acquisition of goods that signal status or reputation. In Study 1, participants who recalled a rival were significantly more likely to buy a conspicuous good that was not owned by the rival than were participants who recalled a cooperative peer. In Study 2, we found that participants who recalled a rival were significantly more willing to pay for a product than were control participants, but only if the product was associated with status. Furthermore, anticipated happiness upon acquiring the product drove rivals' willingness to spend on status objects, suggesting that consumption may serve to repair the aversive state of faring poorly to a rival.

BIOGRAPHICAL SKETCH

Rachel Ruttan was born in Ontario, Canada on April 16, 1987. Rachel received her Bachelor of Arts (Honors) from Queen's University at Kingston, Ontario, where she majored in Psychology. Rachel completed her MS at Cornell University in Organizational Behavior. Rachel is now a doctoral student at Northwestern University in Management and Organizations.

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The Effects of Rivalry on Conspicuous Consumption

“Too many people spend money they haven’t earned, to buy things they don’t want, to impress people they don’t like” – Will Smith

Competition is ubiquitous. Employees vie for promotions, athletes compete for a spot on the team, and companies fight for market share. Competitive behavior, or the pursuit of assets perceived to be scarce and contested (cf., Deutsch, 1949), is often associated with the desire to “win” or defeat one’s opponents. However, some opponents loom larger than do others. These enduring opponents, or rivals, can induce a motivation to perform that goes beyond the objective stakes of the competition. Examples of such rivalries are prominent in a broad range of settings. From rivalries in sports, such as the historic Yankees-Red Sox rivalry in Major League Baseball, to longstanding competitions between firms, such as the rivalry between Microsoft and Apple, rivals often come to view each other as more than simple competitors.

Although some scholars have suggested that competition can increase people’s motivation and promote their survival and success (e.g., Axelrod, 1984), in the present research, we advance a potential pernicious consequence of rivalry. The above quotation captures the view that individuals acquire material goods not for their inherent value or qualities, but as a display of wealth or status to others. Indeed, the North American idiom “keeping up with the Joneses” reflects the notion of using one’s neighbor as a benchmark for one’s social status. Arguably, the American population’s insatiable appetite for consumption has contributed to the staggering \$14 trillion in consumer debt and the fact that over 40% of American households spend more than they earn (Golub, 2008). Economists have explained this conspicuous

consumption (i.e., the act of acquiring goods not for their inherent objective or subjective value, but to signal social status (Veblen, 1889/1994) with the economics of wealth signaling (Bagwell & Bernheim, 1996; Charles, Hurst, & Roussanov, 2009), bandwagon effects (i.e., people want the objects that they believe other people want; Van Herpen, Pieters, & Zeelenberg, 2009), and keeping-up-with-the-Joneses (i.e., people want what their peers have; Csikszentmihalyi, 2000; Frank, 1999). Such terms reflect that individuals' choices depend on what other individuals have or want, but not the conditions upon which this tendency is contingent. In the current research, we suggest that rival relationships in particular engender a tendency to engage in conspicuous consumption. We view rivalry as an inherently relational phenomenon, in which actors perceive a competition for resources, goods, status, or positions (Levine & Thompson, 1996; Menon et al., 2006) with one another in a zero-sum or "win-lose" fashion. We suggest that a rival's acquisition of a favorable possession leads to an aversive state that individuals will attempt to attenuate or alter. Given that goods can be used to convey status (e.g., Belk, Bahn, & Mayer, 1982), we predict that individuals experiencing rivalry, relative to control peers (or baseline conditions), will exhibit an increased desire to acquire products associated with status as measured by their willingness to pay. This acquisition of high status product may serve to repair the perceived status imbalance introduced by the rival's favorable acquisition.

Rivalry: Competition as a Relational Phenomenon

As stated in the introduction, rivalries are prominent in a broad range of settings and can induce a motivation to perform that goes beyond the objective stakes of the competition. In fact, anecdotal evidence suggests that these rivalries can become

sufficiently intense to lead to non-rational competitive behaviors. For example, Boston Scientific recently overpaid to acquire Guidant, a move which has since been called “arguably the second-worst” acquisition ever, largely because it was bidding against rival Johnson & Johnson (Malhotra, Ku, & Murnighan, 2008). Likewise, experimental evidence suggests that the desire to beat rival bidders in an auction can lead participants to pay more for an item than it is worth to them (Ku, Malhotra, & Murnighan, 2005). Ku et al.’s findings stand in contrast with rational choice assumptions that bidders will stop bidding when they hit their limit (i.e., the price at which they value the item) (see Vickrey, 1961 for review). The desire to “win” a dispute can also lead people to pursue costly litigation even when less antagonistic strategies would produce superior outcomes (Malhotra et al., 2008). These examples suggest that rivalry can be a significant psychological phenomenon with powerful behavioral consequences.

We define rivalry as a subjective competitive relationship that increases the psychological involvement of participants beyond what the objective characteristics of the situation warrant (Kilduff et al., in press). Moreover, we view rivalry as an inherently relational phenomenon, in which actors perceive a competition for resources, goods, status, or positions (Levine & Thompson, 1996; Menon et al., 2006) with one another in a zero-sum or “win-lose” fashion. This definition warrants several points of discussion.

First, the increased psychological involvement we refer to in the definition reflects our view that individuals place a greater value on competition against a rival than on other opponents, and place greater significance on the competition than the

objective stakes (e.g., financial, reputational) warrant. This psychological involvement suggests that, in contrast to past characterizations of competition (e.g., Bothner, Kang, & Stuart, 2007; Deutsch, 1949), rivalry, as we portray it, exists within individuals' minds. Second, the 'relationship' component of our definition suggests that prior interaction is a prerequisite to rivalry. That is, the past competition between competitors can leave a lasting "psychological residue", which may foment the development of a rivalry (Kilduff et al., p. 946). Third, people equate a rival's gains with their own losses. Thus, rivalries may make it difficult for actors (individuals or groups) to capture the joint gains from collaboration or cooperation. Fourth, the subjective nature of rivalry means that we do not view reciprocity as a necessary component of rivalry—that is, rivalry may not be a two-way street. For instance, by presenting themselves as a rival to a high status or highly competent rivals, people may gain status by association or feel a motivational boost by seeking victory against the high status others (Kilduff et al., 2010). Finally, rivalries may vary in strength (much like other relational constructs; see Marsden & Campbell, 1984) and may exist in a wide range of domains. Regarding the latter, evidence for rivalry has been found between individuals vying for the same romantic partner (Maner, Miller, Rouby, & Gaillot, 2010), success in an athletic contest (Kilduff et al., 2010), or social status in a group (Kilduff & Anderson, 2009). Moreover, it may be possible for rivalries to exist in multiple domains—an idea that we will address in the current article.

Prior Research

A reasonable starting point for the discussion of rivalry is the broader literature on competition. We note that, although the literature on competition is vast, the role of

relationships—and by extension, rivalries—is under-emphasized. Early work on competition focused on the parameters of competitive (vs. cooperative) situations (Deutsch, 1949; Maller, 1929; May & Doob, 1937; Mead, 1937). For instance, Deutsch (1949) defined competition as a situation in which goal attainment of participants is negatively related, such that victory of one participant comes at the loss of the other. Following Deutsch's conceptualization, much research on competition has pitted participants against one another or against confederates in one-off competitions (e.g., Deci, Betley, Kahle, Abrams, & Porac, 1981; Reeve & Deci, 1996; Stanne, Johnson, & Johnson, 1999; Tauer & Harackiewicz, 1999). For example, in Deci et al.'s (1981) article, participants solved puzzles in the presence of a same-sex confederate who posed as another participant completing the same task. The authors found that intrinsic motivation for the task decreased when participants were told to compete with the confederate compared with when they were just told to complete the task as quickly as possible. More recently, scholars have taken a person-focused approach, focusing on the effects of individual differences on competitive behaviors. For example, De Dreu and Boles (1998) found that negotiators with a prosocial value orientation (i.e., people who attach importance to achieving high outcomes for both the self and for others to whom they are interdependent) were more likely to operate under cooperative heuristics (e.g., "equal split is fair"). In contrast, negotiators with an individualistic value orientation (i.e., people who attach importance to achieving high outcomes for the self) were more likely to rely on competitive heuristics (e.g., "your gain is my loss").

Although we do not deny the importance of the situation or the individual in influencing competitive behaviors, the nature of competition will likely vary depending on the prior relationship between competitors. Despite little extant research on the relational ties between competitors, some literatures speak to their importance. For example, in the negotiations literature, researchers have demonstrated that interpersonal factors, such as the presence of face-to-face contact (Drolet & Morris, 2000), partners' positive and negative affect in past negotiations (Thomas, Valley, & Kramer, 1995), and relationship closeness (Valley, Neal, & Mannix, 1995), can significantly influence the process and outcomes of negotiations. As mentioned above, people are also more likely to exceed their bidding limits when facing one or few, rather than many, competing bidders (Ku et al., 2005; Malhotra, 2009). The authors suggested that these head-to-head bidding competitions might produce rivalries, which may push bidders to care more about defeating opponents, or relative gains, than the personal gain of obtaining the object at a reasonable price. Together, these findings underscore the importance of considering the relational context when examining competitive behavior.

In a recent exception to the scant treatment of rivalry in the literature, Menon et al. (2006) explored how people react to good ideas authored by existing internal rivals (i.e., those at the same organization) versus external rivals (i.e., those at another organization). Participants in three studies wrote about a real instance in which they coped with a rival who was either internal or external to the organization and then responded to a simulation in which the person developed an innovative idea. An advantage of Menon et al.'s method is that it evoked a real rival in order to stimulate

strong, realistic emotions and responses. The authors found that, because internal rivals pose a more direct threat to one's personal status, people were less willing to use the good ideas of internal rivals than of external rivals. That is, because organizations are often replete with internal competition for rewards and status, valuing the idea of internal rivals may signal deference and transfer power to the rival by acknowledging their relatively greater ability to cope with critical problems (cf. Salancik & Pfeffer, 1982). In contrast, out-group rivals' ideas may be seen as more valuable and scarce, thus adding value to the in-group (Menon & Pfeffer, 2002). In addition, because rivals tend to be similar and matched in skill (Kilduff et al., 2010), they represent an accessible source of social comparison. Thus, in Menon et al.'s study, a rival's good ideas represented an upward social comparison that highlighted the self's personal inadequacies.

Consistent with our conceptualization of rivalry, Kilduff et al. (2010) examined how the relationships between competitors influenced the subjective intensity of the rivalry between them. Specifically, in the context of North Collegiate Athletic Association (NCAA) Men's Basketball teams, the authors tested how proximity, similarity between teams, and histories of prior interactions predicted rivalries. Rivalry was assessed by asking college sportswriters, coaches, and players to indicate the extent to which they saw the other teams in the conference as rivals to their basketball team. The results revealed that geographic proximity, similar status, and repeated competitions predicted the strength of rivalries. The authors suggest that closely located, evenly matched competitors are likely to be more salient, and thus, more likely seen as rivals. Regarding the history of competition, the authors suggest

that the experience of competition can leave a competitive residue that endures even after contests have been decided. Thus, repeated competition is likely to engender rivalry, as the competitive residue from past contests accumulates. In examining the consequences of rivalries, Kilduff et al. found that rivalry increased success on effort-based tasks—operationalized as defense in basketball. Taken together, the results of Kilduff et al.’s study underscore the importance of examining the relationships between competitors and the consequences of these relationships.

We believe that one potential consequence of rivalry is a “carryover effect” such that rivals come to be threatened by each other’s favorable possessions, skills, and attributions in unrelated domains. Because rivals tend to be similar and matched in skill (Kilduff et al., 2010), they represent an accessible source of social comparison. Thus, in Menon et al.’s study, a rival’s good idea—an idea that the self did not have—represented an upward social comparison that highlighted the self’s personal inadequacies. Despite Menon et al.’s focus on upward comparisons, we note that the ongoing nature of a rivalry likely means that there is variance in the relative outcomes for rivals. That is, at one time, a rival may represent an upward social comparison, but at another time, be in a less favorable position, and represent a downward social comparison. However, much like Menon et al., the current paper will explore the psychological consequences of a rival’s possession of a valuable item that the self does not have. In this vein, when a rival comes to acquire a desirable attribute or possession outside of the original domain of rivalry, we predict that individuals will experience envy (i.e., the unpleasant emotion that can arise when we compare unfavorably with others), and consequently desire to obtain a conspicuous good for

themselves. This prediction stems, in part, from people's prevailing desires to maintain positive beliefs about the self (see Dunning, 2007), which may be threatened by a rival's superior position—a point to which we turn to next. The self-threat produced by rivals may provoke defensive patterns of responding (e.g., Brockman & Janoff-Bulman, 1977; Morse & Gergen, 1970); thus, people's self-maintenance needs may infiltrate their judgments about the ideas and belongings of a rival individual.

Rivals as Threats to the Self

A robust body of social psychological research suggests that people are motivated to maintain sacrosanct beliefs about the self as a competent, lovable, and moral individual (see Dunning, 2007 for a review). Moreover, as Leary (2004) cogently described in a work entitled *The Curse of the Self*, after constructing these favorable self-concepts, we work hard to defend them against imperfection. As Leary puts it, as the “self-aware animal”, people have the remarkable ability to evaluate their own thoughts, behaviors, and to imagine others' points of view, including what the others think of them. However, these skills may come at a cost as well, leading people to worry about improbable or trivial events, making mountains out of “entirely imaginary molehills” (p. 21). Perhaps worse, the desire to impress the self and others has been found to lead people to non-rational and even risky behaviors, such as binge drinking in the face of peer influence (see Leary, 2004 for a review). Of high import for the consequences of rivalry, contemporary social psychology has pointed to the importance of the social context, and subsequent social comparisons, in influencing self-judgments (e.g., Wood, 1989).

Social Comparison and Competition

Indeed, an important source of knowledge about oneself is comparisons with other people. Festinger based his (1954) theory of social comparison on this insight. According to Festinger, although people would be best served to attend to direct, objective standards when making self-evaluations, these standards are often unavailable. In these situations, people often compare themselves with other people. When making these social comparisons, much research has demonstrated that exposure to persons who are more fortunate than an individual can diminish the individual's feelings of self-worth, whereas exposure to less fortunate targets can enhance the individual's self-concept (e.g., Friend & Gilbert, 1973; Latane, 1966; Stapel & Suls, 2004). For instance, in Morse and Gergen's (1970) seminal work, applicants for a summer job saw another applicant who was both well dressed and competent or one who was disheveled and disorganized. Applicants exposed to the "clean" competitor experienced lower self-esteem, whereas applicants exposed to the "dirty" competitor experienced increased self-esteem. These results suggest how social comparisons can threaten self-worth.

In addition to self-threat, social comparison scholars have demonstrated a strong link between social comparison and competitive behavior. For instance, an upward comparison of the self to someone who is better off on a valued dimension can be painful and often leads to increased competitiveness (Goethals, 1986; Goethals & Darley, 1977; Hoffman, Festinger, & Lawrence, 1954). As Festinger (1954, p. 126) suggested, "competitive behavior, action to protect one's superiority, and even some kinds of behavior that might be called cooperative, are manifestations in the social process of these pressures" to reduce such discrepancies. Consistent with this,

Hoffman et al.'s (1954) seminal work found that, after one participant in a group of three began scoring especially well on a performance task, the other two participants began to behave in ways aimed at preventing the outperforming other from gaining additional points. Such competitive behavior served to reduce the performance discrepancies between higher and lower scorers.

The power of social comparison is also evident in research on the positional bias and relative deprivation. The positional bias is defined as the tendency for people to judge their satisfaction with goods in some domains according to how much one has of the resource compared to others rather than the absolute amount one has (Hill & Buss, 2004). Hill and Buss (2004) introduce the positional bias from an evolutionary perspective, suggesting that the drive to outperform rivals in fitness-relevant resource competitions represents an important domain of adaptive problems. They suggest that individuals who judged their success based on their position relative to potential competitors would have continued to strive to improve their position, leaving “more complacent competitors...in the evolutionary dust” (p. 132). A large body of work supports the authors’ proposition. Individuals’ subjective well-being seems to be influenced more by relative, rather than absolute levels, in domains such as income, physical attractiveness, years of education, and intelligence (Clark & Oswald, 1996; Frank, 1999; Solnick & Hemenway, 1998).

We suspect that rival individuals represent an accessible, and threatening, source of social comparison because of research suggesting the commensurability of rivals to the self (Kilduff et al., 2010), and the self-relevance of the domains in which rivalries usually exist (DeSteno & Salovey, 1996; Tesser & Smith, 1980). First,

according to Tesser's (1988) Self-Evaluation Maintenance (SEM) Model, for competition to occur, the social comparison must be important to the self. Tesser's SEM model posits that feelings of self-worth are enhanced or diminished by others' performance according to (a) the individual's relationship to the other and (b) the personal relevance of the dimension under consideration. SEM model highlights two important points of consideration. First, not all upward comparisons are painful. Self-threat occurs only if the dimension is relevant to the self. Second, superior performance on a self-relevant domain is more threatening if it comes from a close rather than distant other. For example, Tesser and Smith (1980) tested acquainted or unacquainted pairs of participants in a task that was framed as either relevant or irrelevant to a valued dimension – verbal skill. Results indicated that, when asked to judge the performance of another participant, individuals were the least generous when assessing an acquainted other on a self-relevant task.

Similar to Tesser's proposition, the related attributes hypothesis (Goethals & Darley, 1977; see Suls & Wheeler, 2000) suggests that the commensurability of the reference person is another factor influencing whether social comparison is important to the self. That is, people tend to choose a reference person who is similar to the self in performance or opinion, given his or her standing on characteristics related to and predictive of performance or opinion (Goethals & Darley, 1977). The reference person is similar to the self, and helps to motivate the self to perform comparably, if not better, than the commensurate other. This argument is also similar to earlier predictions made by Festinger (1954) in his social comparison theory. A central proposition of Festinger's theory is the "similarity hypothesis," which posits that

individuals prefer to compare themselves to similar others. This is a reasonable approach, given that attempts to evaluate one's ability based on the performance of a very different individual will only lead to the conclusion that one's performance is unique, but will not be indicative of whether a performance level is at an appropriate level. To borrow an example from Zanna, Goethals, and Hill (1975) a swimmer evaluating his or her swimming speed would consider not only other swimmers' speed (the dimension under evaluation), but also the other swimmers' prior experience, recent practice, age, and gender (dimensions related to swimming speed) when selecting someone for comparison. Novice swimmers garner more information about their performance by comparing themselves to other novices than by comparing themselves to Olympic level swimmers.

Given research suggesting that rivals both challenge each other on self-relevant domains (Tesser & Smith, 1980) and tend to be similar to each other (Kilduff et al., 2010), rivals thus represent an accessible source of social comparison. We do not claim that rivals are necessarily similar to each other in a holistic manner (e.g., same gender, race, socioeconomic status). Nor do we rule out the possibility of asymmetric rivalries. However, we do suspect that rivalries will tend to exist within a reasonable range of ability level and within a domain of high specificity (e.g., two novice swimmers rather than a novice and an advanced swimmer and academics in the same rather than a different field, respectively). Indeed, Kilduff et al.'s (2010) findings lend some empirical support to these suggestions. Moreover, even the most distinctive of rivals are similar by virtue of having the same interest in one domain (e.g., our two novice swimmers both partake in swimming).

Therefore, returning to Menon et al.'s findings, the internal rivals' good idea likely represented an upward social comparison that highlighted individuals' personal inadequacies more so than did the idea of external rivals. That is, because of the comparability of two internal rivals, and direct competition for status and rewards within the in-group (Menon & Pfeffer, 2003), the possession of a valued idea by an internal rival highlighted something that the self did not have. Consistent with this suggestion, Menon et al. also found that participants' perceived threat to status mediated the effect of an internal rival on avoiding the rival's good ideas. Likewise, in study 3, some participants were given an opportunity to "bounce back" from the threat of a rival by receiving a self-affirmation manipulation. During a self-affirmation manipulation, participants identify their cherished values (e.g., Steele & Liu, 1983). Ostensibly, self-affirmation allows people to focus on other valued, positive attributes of the self (Steele, 1988), thereby alleviating the anxiety of being outperformed in one domain. Indeed, self-affirmation has been shown to reduce defensive behaviors such as stereotyping (Fein & Spencer, 1987), rationalization (Steele & Liu, 1983), and stereotype threat (Martens, Johns, Greenberg, & Schimel, 2006). Menon et al. found that self-affirmed participants were significantly more likely to increase pursuit of knowledge from internal rivals than were non-affirmed participants. These findings suggest that the rivals posed a threat to the participants' self-views, which was overcome by allowing participants to rebound from the self-threat.

Although Menon et al.'s study examined another's possession of a favorable idea, we suspect that because of the competitive nature of rivalries, as well as the nature of rivals as salient social comparisons, that people will also use rivals to

evaluate their relative standing with regard to the possession of favorable item. We suspect that a rival's possession of a desirable skill, object, or attribution—although unrelated to the original domain of competition—will similarly threaten the self by highlighting that the possession is something the self does not have. This self-threat may lead to the experience of envy—a negative emotion closely associated with upward social comparisons (Salovey, 1991). In order to reduce this negative affect, people may seek to demonstrate that they are on par with (or better than) their rivals. Acquiring status is one means of achieving this goal. We now turn to research on envy, which suggests that being outperformed leads to a negative affective state, which drives individuals to reduce this state by decreasing the imbalance between the self and the envied other.

Envy

The social comparison process is replete with intense affective responses (e.g., DeSteno & Salovey, 1996; Wert & Salovey, 2004). One emotion that scholars have closely linked to upward comparisons is envy (Salovey, 1991; Silver & Sabini, 1978), defined as an unpleasant, often painful emotion characterized by feelings of resentment, hostility, and inferiority produced by the awareness of others enjoying a desired possession (e.g., Parrott, 1991; Parrott & Smith, 1993). Of relevance for our purposes, envy seems particularly likely to arise in situations in which a rival individual stands to best the self. Unlike the related experience resentment, envy requires not only the recognition of the other's advantage but also the simultaneous recognition of one's own disadvantage (Smith, 1991). Given individuals' perceptions

of rivalries as a zero-sum game, we suspect that any advantage a rival has will connote a disadvantage for the self and lead to envy.

Recently, some scholars have suggested that envy is best represented as comprising two distinct emotions (Miceli & Castelfranchi, 2007; Smith & Kim, 2007)—one called benign envy and another called malicious envy; the difference being that benign envy fosters admiration and emulation whereas malicious envy fosters hostility and resentment (Smith & Kim, 2007; van de Ven, Zeelenberg, & Pieters, 2010). Research has focused largely on malicious envy—finding for example that it is related to dishonesty and unethical behavior (e.g., Gino & Pierce, 2009; Moran & Schweitzer, 2008). However, recent research has investigated the effects of benign envy on motivation and self-improvement. For example, van de Ven, Zeelenberg, and Pieters (2009) found that benign envy is similar to comparing oneself upward (cf. Mussweiler, 2003), such that people become inspired by others and aim to behave like others. In van de Ven et al.’s words (2009), people “level up” and assimilate those whom they are benignly envious. At the same time, people “level down” those whom they are maliciously envious, by degrading them. As a result, benign envy may motivate people to emulate others’ behavior, which is seen as both desirable and greater than their own. In addition, malicious envy may motivate people to derogate and become cynical of others’ behavior or possessions (Smith et al., 1999).

Important to our purposes, people are more likely to envy those who are similar to them (e.g., Parrott, 1991; Salovey & Rodin, 1984; Schaubroeck & Lam, 2004). This prediction is consistent with Elster’s (1998) conjecture that similarity will increase envy because similarity enhances individuals’ ability to imagine a situation in

which they ended up with the desired possession. As Elster puts it, the envying person believes “it could have been me”. Elster’s point parallels research on the simulation heuristic (e.g., Kahneman & Tversky, 1982), which finds that emotional response are more intense if people can more easily imagine alternatives to an emotion-evoking situation than if they cannot. Given that rivals tend to be similar and evenly-matched (Kilduff et al., in press), it seems likely that a rival’s favorable outcome will elicit this sort of counterfactual thinking (e.g., “it could be me”) that leads to envy.

Another important facet of envy is the desire it evokes. For instance, Parrot and Smith (1993) found that participants reported the “longing for what another has” to be the most characteristic of their experience. According to Parrot (2001), the importance of this envious desire is twofold: First, that desire is a precondition for experiencing envy—people must want to possess the item for themselves. Second, being envious may increased the desire and striving for the object or quality. The latter notion dovetails with Douglas and Isherwood’s (1979) “envy theory of needs”, which posits that consumers’ preferences can often be better explained by envy than by the intrinsic value of goods. Indeed, marketers often aim at capitalize on this envious desire by trying to evoke envy in consumers (Belk, 2008).

Interestingly, regarding envious desire, some scholars (e.g., Heider, 1958; Young, 1987), have suggested that people can become envious of another person’s attainment *just because the other has it*. Thus, just as a child may not become interested in a toy until the toy is possessed by his or her sibling, people may experience envy at another’s possession of an item or attribute they would not have otherwise desired (see Silver & Sabini, 1978 for a full discussion). Given the salience

of rivals as a source of social comparison, it is plausible that envy arises following a rival's favorable acquisition. That being said, the current study will also provide an initial exploration of the relationship between rivalry and envy, and how this relationship may contribute to conspicuous consumption. We will explore whether one or both of malicious and benign envy operate following a rivalry acquisition of a favorable item.

Products and Consumption Symbolism

To recap, we predict that individuals will experience envy following a rival's possession of an item the self does not have. Envy induces a motivation to put oneself at least "to par" with the other (van de Ven et al., 2009). Given that rivalry entails competition for status, individuals may view a rival's superior standing as a loss to the self's social standing, which increases the motivation to restore their standing. The question, then, is how can rivals demonstrate their social status? Increasingly, research has found that products communicate information about the identities of their owners (e.g., Belk, Bahn, & Mayer, 1982; Shavitt, 1990). In particular, Belk and colleagues (1982) explored the suggestion that products can signal an individual's status. The authors found that, as consumers age, they tend to gravitate toward desiring high status items in an effort to demonstrate their status to others. Indeed, the term *conspicuous consumption* (Veblen, 1899/1994) arose to describe the behavior of individuals who purchase products, not because of their inherent functional value, but as a means of displaying their wealth and status. Demonstrating the existence of such conspicuous consumption, Americans spend almost \$2 billion each year to purchase and fuel their Hummers—a highly conspicuous and wasteful sports utility vehicle that consumes a

gallon of fuel every 8-11 miles. Americans spend many more billions each year on extravagant mansions, dinners, yachts, jewelry, and other conspicuous purchases (see Frank, 1999).

Economists typically invoke the economics of wealth signaling to explain this pattern of consumption (e.g., Bagwell & Bernheim, 1996; Charles et al., 2009). That is, conspicuous consumption involves spending money to suggest to others that one has enough money to purchase frivolous and wasteful goods. Indeed, it is well established that individuals place great emphasis on their social status and strive to attain higher levels of status (e.g., Barkow, 1989; Frank, 1985; Veblen, 1899). Individuals also have routes by which they can increase status—individuals can gain status through the accumulation of wealth, education, and social ties with high status individuals (e.g., Corneo & Jeanne, 1997; Lin, Ensel, & Vaughn, 1981). However, these status markers can be difficult to obtain for many individuals (e.g., Lin & Dumin, 1996). Moreover, many of these status markers (e.g., income; education level) are not visible to others. Despite these barriers, individuals can demonstrate ostensible status through alternative forms, such as consumption of goods that confer status. Thus, economists have suggested that conspicuous consumption is a costly signal of wealth (e.g., Corneo & Jeanne, 1997). Because income is not easily observed by others, people may engage in conspicuous consumption to speciously signal wealth (Banerjee & Duflo, 2007) and manipulate others' perceptions of their status.

Researchers have also recently begun to explore the possibility that individuals' psychological motives play a vital role in explaining conspicuous consumption. Specifically, possessing status confers various psychological rewards to

the individual, such as enhanced self-esteem (e.g., Berger et al., 1972) and a sense of power (Rucker & Galinsky, 2008). The self-enhancing benefits of status combined with the ability of possessions to confer information about the self (e.g., Belk et al., 1982) may result in conspicuous consumption for its self-affirmational value.

Consistent with this proposition, Sivanathan and Pettit (2010) found that participants experiencing wounded egos following self-threatening feedback (Studies 1 and 2), actual low income (Study 3), and the anticipation of future threats (Study 4) were significantly more willing to spend on conspicuous goods than were participants who did not experience self threat. When participants were afforded an alternative route to repair their self-integrity (i.e., self-affirmation; Steele, 1998), they no longer sought out conspicuous goods following self-threat. Therefore, the results suggest that status goods can buffer the self against threats.

Similarly, Rucker and Galinsky (2008) proposed that people desire to acquire status goods in a compensatory manner. The authors found that powerlessness increased individuals' willingness to pay for items related to status. Interestingly, low power individuals' willingness to pay more for a high status product was mediated by the perception that the product would provide them with an increased sense of power. Taken together, these results suggest that people may acquire status goods in a compensatory manner. Given that rivalry entails competition for resources and status, and that a rival's gain may be viewed as threatening to the self (cf., Menon et al., 2006), rivals may seek to acquire status goods in a compensatory manner.

Another reason for rival individuals to engage in conspicuous consumption may be mood repair. According to existing theories of mood repair (e.g., Clark & Isen,

1982), individuals in a negative emotional state are predisposed to engage in mood improving behaviors, such as helping others or potentially obtaining new commodities. Thus, to the extent that rivalry is associated with envy, one might view conspicuous consumption as a mood-regulating effort. Consistent with this possibility, recent research has linked mood to spending. An example of this association is the “misery-is-not-miserly” effect. The misery-is-not-miserly effect is the tendency for sadness to carry over from past situations to influence unrelated economic decisions. For instance, Lerner et al. (2004) found that participants who received a sadness induction gave up 30% more money to acquire a commodity compared to other participants. Cryder, Lerner, Gross, and Dahl (2008) further examined this relationship and found the experience of feeling both sad and self-focused leads individuals to pay more for products. The authors suggested that sadness, coupled with self-focus, increases self-devaluation. This diminished sense of self then leads to a desire to enhance the self, which elicits increased valuations of the possessions might acquire.

Whereas Cryder et al.’s sad participants desired any good that they did not already possess, we suspect that people engaged in rivalry will be more likely to value status items in particular. From a mood repair perspective, the negative affect associated with faring poorly compared to a rival may induce a motivation to engage in behaviors that will remove the source of that affect. Because status is relative (e.g., Anderson et al., 2009), and a rival’s favorable standing may be perceived as detrimental to the individual’s status, behaviors aimed at repairing the status imbalance may be used to remove the aversive feelings associated with lower status. Given that conspicuous consumption can impart visible status to the buyer, status

goods may appear more desirable to rivals, for whom the status goal is more salient. According to such a perspective, rival individuals, compared to the other peers, should anticipate greater happiness from acquiring conspicuous goods. This is a prediction we will examine in the current study.

Rivalry Leads to Socially Differentiated Consumption

It is important to note that we anticipate rivalry will increase the desire to acquire high status goods that have *not* been recently acquired by the rival. This prediction stems from (1) the ambivalence of rivals and (2) research on social differentiation. First, we suspect that being associated with a rival will “taint” the possession. When people feel threatened by a source of social comparison they feel paranoid (Kramer, 1998) and fear that they may inadvertently affirm the reputation, competence, and legitimacy of the threatening other while creating doubt on their own distinctiveness and competence (Blau, 1995; Lee, 1997). As a result, they avoid acknowledging the other’s success by using a variety of strategies. For one, they may downgrade the importance of the object of success and thus avoid social comparisons (Brickman & Janoff-Bulman, 1977; Morse & Gergen, 1970). Research suggests that people change their performance standards depending on whether self-threat is present. For example, people who score well on the Scholastic Achievement Test (SAT) before coming to college do not consider others to be intelligent unless they, too, score well on the SAT. Conversely, students who score low on the SAT do not view the test as an important criterion for assessing intelligence (Beauregard & Dunning, 1998). Thus, if a rival, but not the self, possesses a valuable attainment, individuals may conclude that the item or skill must not be an important determinant of self-worth. Further, individuals may

attempt to gain status by subtly condescending or criticizing the rival's ideas or possessions (Fournier, Moskowitz, & Zuroff, 2002; Gilbert, 1992). By derogating the item, then, individuals may protect the self against potential failure to obtain the possession.

To illustrate this phenomenon, consider someone who witnesses his or her rival showing off a new Porsche 911 sports car. One response might be, "Yes, your car looks fast and fun, but it is not what is important for a car. A car should be practical and family friendly." However, the negative affect experienced from comparing unfavorably likely still exists, and the envying individual may have an increased desire for a similarly conspicuous, but at the same time clearly different product. For instance, the envying individual in the above scenario may purchase a Mercedes-Benz sedan. This example illustrates social differentiation, which occurs when people are outperformed in one domain, and then select an alternate domain in which they might outperform the previously superior person. For example, Lalonde (1992) found that hockey teams performing poorly in their league acknowledged that the other teams were outperforming them, but also considered these other teams to play "dirty". Thus, comparing themselves on the domain of sportsmanship allowed them to feel better than the others, even though the other teams were more highly ranked. How would social differentiation following rivalry have an impact on consumer behavior? Buying such a product would resolve the negative affect of being inferior, but would also differentiate oneself from the rival. Thus, the motivation to degrade the rival may lead the individual to avoid assimilation to a rival, but may simultaneously increase alternative actions aimed at restoring any imbalance (cf., van de Ven, 2011).

In sum, the prior literature review elucidated several key propositions. First, rivals represent a salient source of social comparison that is important to the self. Second, when a rival comes to acquire a favorable product, people experience an aversive psychological state, which people seek to compensate for by signaling that they are at par with (or better than) their rivals. Acquiring status is one way to demonstrate this to oneself and to the rival. Third, consumer products are one means to signal one's status. Taking these different streams into consideration, we hypothesized that acquiring status-related consumer products is a means by which consumers attempt to compete with their rivals. Consequently, we predicted that when experiencing the advantageous position of a rival, individuals might be more likely to desire products that signal status to others (e.g., designer labels, executive pens) as evidenced by an increased willingness to pay for such goods.

Overview of Present Research

In the above section, we predicted that because rivalry involves a competition for status, and goods can be used to reflect status, rivalry would increase the desire for conspicuous goods. In a preliminary test of the hypotheses, we examined how the recall of a rival (versus a control peer) influenced participants' willingness to pay for and evaluations of a desirable item possessed by the rival or peer, as well as their willingness to pay for items that varied in their ability to convey status. In Study 2, we further explored the relationship between consumption and rivalry by manipulating both rivalry and object status to examine whether object status and rivalry interact to predict willingness to pay. We expected an interaction between rivalry and object status, such that participants in the rivalry condition would have a higher willingness

to pay than would other participants, but only for goods high in status. The current study further examined the role that affect plays in the relationship between rivalry and consumption and examined whether anticipated happiness upon purchase mediated the relationship between rivalry and consumption.

Study 1: Does Rivalry Increase Conspicuous Consumption?

The effects of rival's possession of a favorable item or attribute on subsequent consumption are unclear. Thus, the current study was an initial examination of the relationship between rivalry and conspicuous consumption. Under the guise of two separate research projects, one investigating "the impact of relationships on perceptual processes", and the other investigating "economic decision-making", participants first completed a recall task originally used by Menon et al. (2006). For this task, participants were randomly assigned to describe a personal rival (i.e., "someone you have repeatedly competed against and/or were matched with") or a control peer (i.e., "someone you have repeatedly worked together with or cooperated with"). Participants then read about a situation in which the other (rival or control peer) has come to possess a desirable item—an iPad 2 tablet computer. To test whether rivals desire similarly high status, but different products, we then examined the impact of a rival owning a valuable item on subsequent ratings of wanting (i.e., willingness to pay for the item) and liking of the item (i.e., favorable or unfavorable evaluations of the item). Past research has successfully used willingness to pay as a measure of wanting of the item (e.g., Litt et al., 2010). In contrast, evaluations of the possession represent explicit feelings toward the item, which reflect of how individuals *feel about* the outcome itself, as opposed to their desire and persistence to obtain the outcome (Litt et

al., 2010). In addition, participants indicated their willingness to pay for items that vary in their abilities to convey status. To rule out alternative explanations, we will also obtain measures of the asymmetry of the rivalry, and the tangible consequences of the past competition, and the degree to which participants the other to be a friend.

Method

Participants

65 undergraduates at a large Northeastern university participated in the study. Participants received 0.5 course credits for their participation in the study, which lasted approximately 15 minutes. Participants received \$10 for their participation in the study, which lasted approximately 20 minutes. The sample consisted of 52.3% females, 6.7% African Americans, 50% European Americans, 31.7% Asians, 5% East Indians, and 5% Hispanics. The remaining 1.7% of the sample identified themselves as “other.”

Measures (see Appendix)

Control Variables. Because the asymmetry of a social comparison can influence the degree of self-threat experienced (e.g., Tesser, 1988), participants indicated to what extent they have succeeded or “won” in the past competition with the rival on a scale from 1 (*Not at all*) to 7 (*Very much*). In addition, because the tangible stakes of the competition may influence the intensity of the affect experienced (e.g., Kilduff et al., 2010), we asked participants to indicate how high the tangible stakes (e.g., money, career success, grades, broader reputational benefits, etc.) were associated with the competition on a scale from 1 (*Not at all high*) to 7 (*Very high*). Finally, because differing levels of closeness may exist among rivals and cooperative

peers, participants indicated the extent to which they considered the person to be a friend on a scale from 1 (*Not a friend*) to 7 (*My best friend*).

Willingness-to-Pay (WTP). Participants will indicate how much they would pay for the items in United States dollars (USD).

Evaluations of Object. To assess liking of the object, participants will indicate their agreement with 3 items (e.g., “The iPad 2 is a desirable product”) on a 7-point scale (*1 = strongly disagree; 7 = strongly agree*). After reverse scoring one item (i.e., “the iPad 2 is overrated”), the sum of the 3 items served as an index of object evaluation. The evaluation scale had acceptable inter-item reliability (Cronbach’s $\alpha = .84$).

Procedure

Upon arrival, all participants were escorted to a separate computer room and told that they were going to complete two studies. All participants received two packets of material, ostensibly for each study. Participants were randomly assigned to one of two conditions (rivalry: personal rival vs. control peer) representing the manipulation of the independent variable in a between-subjects design. To manipulate rivalry, we used a method adapted from Menon et al. (2006), in which participants were randomly assigned to describe a personal rival (i.e., “someone you have repeatedly competed against and/or were matched with”) or a control peer (i.e., “someone you have repeatedly worked together with or cooperated with”). Participants wrote about how they felt about this person, which served to increase the realism of the experimental manipulations. They then completed the control measures. After this, participants read a vignette in which the recalled individual has come to

obtain a desirable possession. Specifically, the other has acquired an iPad 2 tablet computer. Participants were told about the beneficial features of the iPad 2. Moreover, at the time of data collection, the iPad 2 was released and difficult to purchase, with many Apple outlets running out of the tablet and its accessories within 10 minutes of release (“iPad 2 Sales Stun,” 2011). Given the favorable public response to the iPad, we suspected that the item would be desirable to the participants. Further, because conspicuous consumption is more likely for products that are exclusive and visible (Bearden & Etzel, 1982; Solomon, 1983), the iPad 2 seemed appropriate. Finally, because the item was new at data collection, it likely did not represent an item already possessed by the rivals or an item for which they have previously competed.

To prevent suspicion of the hypotheses, participants then completed a filler task in which they read and answered questions about a newspaper article. The experimenter then informed participants that a second study was to begin, ostensibly examining consumers’ bidding for products in different contexts. Participants then indicated their willingness to pay after seeing each product. Participants indicated their willingness to pay for six items: the iPad 2, designer sunglasses, a new vacuum, a boat trip of a local lake, a trip to Hawaii, and a concert of the participants’ choosing. Past research using a similar sample found that participants rated designer sunglasses as conveying significantly more status than do the other items (e.g., Polman & Khan, 2011). Although some items (e.g., trip to Hawaii) may be related to status, the sunglasses are the most visible, and thus most likely to be conspicuous (see Braun & Wicklund, 1989, for a full discussion on the distinction between conspicuous and status purchases). Moreover, the inclusion of the other items may serve to rule out an

alternative hypothesis—that is, recalling a rivalry increases the desire to consume in general (cf., misery-is-not-miserly; Lerner et al., 2004). Further, participants made evaluations of the iPad 2 in order to examine whether they do, in fact, derogate the rival's possession.

Before leaving the lab, participants completed the demographic questions. In order to examine for awareness of the hypotheses, I used a funneled debriefing technique (Bargh & Chartrand, 2000); the experimenter first asked participants what they thought the study was about and if they found any procedures or instructions unusual or confusing. Finally, the experimenter fully debriefed each participant and thanked her for her time.

Results and Discussion

Gender and race did not interact with any of the measures in this or the next study. Thus, all analyses are reported without mention of gender and race.

Wanting and Liking of a Rivals' Possession. We conducted an independent samples *t*-test to examine differences in willingness to pay for the rival's possession as well as evaluations of the possession. An independent samples *t*-test revealed no significant differences between rivalry and control peer conditions, $t(62) = .74, p = .46$. Consistent with our prediction that rivals would derogate the other's item, however, participants in the rivalry condition gave significantly lower evaluations of the object ($M = 9.32, SD = 4.41$) than did participants in the control peer condition ($M = 12.25, SD = 4.03$), $t(63) = 2.89, p = .005$.

Conspicuous Consumption. In order to examine differences in willingness to pay between the peer and rival groups, independent samples *t*-tests were conducted. First,

given a violation of Levene's test for homogeneity of variances, $F(1, 62) = 9.10, p = .004$, a t -test not assuming homogenous variances was calculated. The results of this test revealed that participants in the rivalry condition were willing to pay significantly more ($M = \$170.33, SD = 139.36$) for the designer sunglasses than were participants in the peer condition ($M = \$95.00, SD = 82.19$), $t(62) = 2.60, p = .01$. No other significant differences emerged between conditions in predicting willingness to pay for the items, $t_s < 1, p_s > .05$.

Control Variables. The tangible stakes, success, and, friendship measures did not significantly differ between conditions, $t_s < 1, p_s > .05$. Further, including these variables in analyses of covariance examining the effects of rivalry condition on willingness to pay did not change the aforementioned results.

The results of Study 1 supported our hypotheses that rivalry can lead to the derogation of a rival other's possessions and to an increase in conspicuous consumption. However, the results of Study 1 did not find that rivalry leads to an increased wanting of (i.e., willingness to pay for) a rival's item. Thus, the results of Study 1 are consistent with social differentiation. Buying a different, but high status good likely resolves the frustration of being inferior, and serves to differentiate the self from the rival other. In contrast, obtaining the rival's product might signal that the product is attractive and desirable, thus potentially perpetuating the rival's ostensible advantage. Social differentiation allows people to stop comparing themselves to another person in the domain in which they are outperformed and look for another area in which they can outperform the rival. Thus, while acquiring an iPad 2 represented a high status technology acquisition, acquiring designer sunglasses may

provide an advantage in the realm of conspicuous fashion.

However, the first experiment relied upon the natural association of different products with different levels of status. Although the use of natural associations with status speaks to the ecological validity of the research, it remains possible that low and high status products selected varied on some dimension besides status. Thus, Study 2 was conducted to provide a more unequivocal test of the relationship between rivalry and conspicuous consumption. Study 2 also included a pure control condition to clarify whether the effects of Study 2 were driven primarily by rivalry or cooperation effects. Finally, to explore the role of affect in the relationship between the variables, we tested whether conspicuously consuming operates as a way for participants to remove the discomfort associated with rivalry by exploring participants' envy and anticipated happiness following a hypothetical purchase.

Study 2: Rivalry and Conspicuous Consumption

In the current study, we performed an experiment to show more directly that rivalry influences conspicuous consumption. To do so, we manipulated whether the same item was portrayed as being either weakly (low status condition) or strongly (high status condition) associated with status, and whether participants recalled a rival (rivalry condition), a cooperative peer (control peer condition), or what they did yesterday (control condition). We predicted that rivalry condition and object status would interact to predict participants' willingness to pay for the object, such that participants in the rivalry condition would have a higher willingness to pay than would control participants, but only for an object of high status. Because we suspect that faring poorly to a rival is an aversive state, leading people to experience the negative

emotion of envy, we suspect that they will be motivated to reduce that state. Given that individuals may view status goods as instrumental to reducing the status imbalance between the self and the other, rivals may see status goods as more valuable than will others. Consequently, rivals may predict experiencing greater pleasure upon attaining status goods. Thus, through meditational analyses, we also sought to show that these differences in willingness to pay would arise because participants in the rivalry condition expect high status good to improve their moods. To do so, we included a measure of anticipated happiness participants expected to receive from acquiring the product. Finally, we also conducted an initial exploration of the relationship between rivalry and envy. As stated earlier, the comparative nature of rivalry may lead rival individuals to experience increased envy at the other's success. We predicted that rivalry would increase the experience of envy, but that rivalry would still predict willingness to pay for status goods after controlling for this affect.

Method

Participants

199 participants (male = 71; female = 128) were obtained for Study 2 via a national online sample on Amazon's Mechanical Turk (see www.mturk.com). Participant received \$1.00 for their participation in the study, which will last approximately 10 minutes. This payment is consistent with the compensation typically provided to Mechanical Turk participants (Paolacci, Chandler, & Iperiotis, 2010). The sample had a mean age of 34 (range 18-63, $SD = 11.95$). The use of Mechanical Turk participants has been shown to be as representative of the U.S. population as traditional subject pools (e.g., Erikson & Simpson, 2010; Paolacci et al., 2010).

Moreover, recent research by Paolacci et al. (2010) replicated a series of classic experiments in judgment and decision-making and found no differences in the magnitude of effects obtained using Mechanical Turk and using traditional subject pools. Thus, the sample is appropriate to address the current hypotheses.

Measures (see Appendix A for all study materials)

Demographic questionnaire. Participants indicated their age and gender.

Envy. To assess affect in response to the vignette, participants completed a 8-item measure of affect. Participants indicated the degree to which they were experiencing each of 10 adjectives indicative of affect (e.g., “jealous”), at the moment, on a 5-point scale from 1 (*not felt at all*) to 5 (*strongly felt*). Consistent with van de Ven’s (2010) suggestions, participants reported their current feelings; in particular, four items related to malicious envy (unhappy, resentment, frustrated, and jealous, $\alpha = 0.81$), and four items related to benign envy (inspired, excited, pleased, and motivated, $\alpha = .85$)¹. The sum of the four items served as indexes of malicious and benign envy, with higher scores indicating higher levels of envy. We also conducted a factor analysis to determine the best factor structure for this scale. A principle axis factor analysis indicated that a two-factor structure yielded the most interpretable solution in terms of the factor loadings, and in a scree plot, the two-factor model marked the last substantial drop in the magnitude of the eigenvalues. Furthermore, in a two-factor solution, all of the factor loadings were above 0.40. Participants had a mean malicious envy score of 7.55 ($SD = .257$), ranging from 4 to 20, and a mean benign envy score of 10.10 ($SD = .41$), ranging from 4 to 20.

¹ The word envy was not included in the analyses because it is used to denote both malicious and benign envy in the English language (see van de Ven et al., 2009).

Anticipated Happiness. To assess whether conspicuous consumption may serve to repair mood, participants indicated the degree to which they thought purchasing the watch would make them happy on a scale from 1 (*Not at all happy*) to 7 (*Extremely happy*).

Control Variables. Because the asymmetry of a social comparison can influence the degree of self-threat experienced (e.g., Tesser, 1988), participants indicated to what extent they have succeeded or “won” in the past competition with the rival on a scale from 1 (*Not at all*) to 7 (*Very much*). In addition, because the tangible stakes of the competition may influence the intensity of the affect experienced (e.g., Kilduff et al., 2010), we asked participants to indicate how high the tangible stakes (e.g., money, career success, grades, broader reputational benefits, etc.) were associated with the competition on a scale from 1 (*Not at all high*) to 7 (*Very high*). Finally, because differing levels of closeness may exist among rivals and cooperative peers, participants indicated the extent to which they considered the person to be a friend on a scale from 1 (*Not a friend*) to 7 (*My best friend*).

Manipulations

Rivalry. To manipulate rivalry, we again used a method adapted from Menon et al. (2006), in which participants were randomly assigned to describe a personal rival (i.e., “someone you have repeatedly competed against and/or were matched with”), a control peer (i.e., “someone you have repeatedly worked together with or cooperated with”), or a control condition (i.e., “describe the last time you went to the grocery store”). Participants wrote about how they felt about this person, which will serve to increase the realism of the experimental manipulations.

Status Good. Under the guise of a separate research study investigating consumers' bidding for products in different contexts, participants were then asked to think about a watch that was exclusive and owned by only a very select group of people (high status object) or a watch that was common and worn by many people (low status object) (Rucker & Galinsky, 2008). Participants then reported the maximum percentage of the retail price that they would be willing to pay to obtain this watch, from 1 (10%) to 12 (120%)².

Procedure

To prevent awareness of the hypotheses, all participants read that they were to complete two separate studies. The instructions indicated that the first study was exploring how individuals' daily experiences affect their feelings and product perceptions and the second was examining how individuals' bidding for various products³. Using randomization by blocks, participants were assigned to one of six conditions representing the manipulation of the independent variables in a 3 (rivalry: rival vs. control peer vs. control) x 2 (object status: low status vs. high status) between-subjects design. Participants first completed the recall task designed to manipulate rivalry adapted from Menon et al. (2005). Participants in the rivalry and control peer conditions then completed the control measures. After this, participants read a vignette in which the recalled individual has come to obtain a desirable possession. As in Study 1, the other has acquired an iPad 2 tablet computer.

² A potential problem of Study 1 was that participants were presented with products from a variety of price tiers, which may have introduced added variance. Thus, Study 2 used an interval scale to reduce the amount of response variance and to guard against outliers.

³ Of import, no participants correctly guessed the experimental hypotheses in an open-ended question that asked participants to guess what the study.

Following the vignette, participants completed the affect measure. To remove suspicion of the hypotheses, participants then completed a filler task consisting of three anagrams. Participants then received instructions for the ostensibly unrelated second study interested in examining consumers' bidding for products in different contexts. Participants were told to imagine that they had decided to treat themselves and were then presented with an item that they might consider purchasing. Participants in the high status object condition read about a Swiss luxury watch worn by a very select group of people. Participants in the no status object condition read about a watch made by a large American manufacturer that is common and worn by many people. Participants indicated their willingness to pay for the item. Following this, participants completed the anticipated happiness measure.

Finally, participants completed the demographic questions and indicated whether they own an iPad 2. In order to examine for awareness of the hypotheses, participants answered an open-ended question asking them what the research was about (c.f., Bargh & Chartrand, 2000). Each participant was then thanked for his or her time.

Results and Discussion

Prior to analysis, three participants' data were removed from the analyses. One participant indicated that she had never experienced a rivalry and two participants discussed a one-off competition rather than a rival with whom they repeatedly competed against.

Primary Analyses. To examine the effects of rivalry and object status on willingness to pay, we conducted a 3 (rivalry: rival vs. control peer vs. control) x 2

(object status: low status vs. high status) two-way ANOVA on the willingness to pay measure. There was no main effect of rivalry, $F(2, 193) = 1.16, p = .32$. There was a main effect of object status, such that participants indicated a willingness to pay more of the retail value of products low in status association ($M = 54.70\%, SD = 2.92$) compared to those highly associated with status ($M = 47.10\%, SD = 2.38$), $F(1, 193) = 5.81, p = .02$, perhaps because the retail price of the high status object was assumed to be much higher than the cost of the low status object, making it less affordable to our population. This main effect was qualified by a significant rivalry x object status interaction, $F(2, 193) = 3.22, p < .04$ (see Figure 1). Deconstructing this interaction revealed, for the low status object, that participants did not differ in their willingness to pay as a function of control ($M = 55.45\%, SD = 3.82$), control peer ($M = 57.45\%, SD = 3.76$), or rivalry ($M = 52.73, SD = 3.82$) conditions, $F(2, 97) = .38, p = .69$. In contrast, for the high status object, there was a significant effect, $F(2, 96) = 3.54, p = .03$. Participants in the rivalry condition were willing to pay significantly more for the watch ($M = 56.67\%, SD = 4.42$) than were participants in the control peer ($M = 42.42\%, SD = 4.42$), $t(64) = 2.28, p = .02$, or control ($M = 42.12\%, SD = 4.42$), $t(65) = 2.33, p = .02$, conditions. The control and control peer conditions did not differ, $F < 1$. The results of Study 2 again suggest that the valuation of high status goods increases in the context of rivalry.

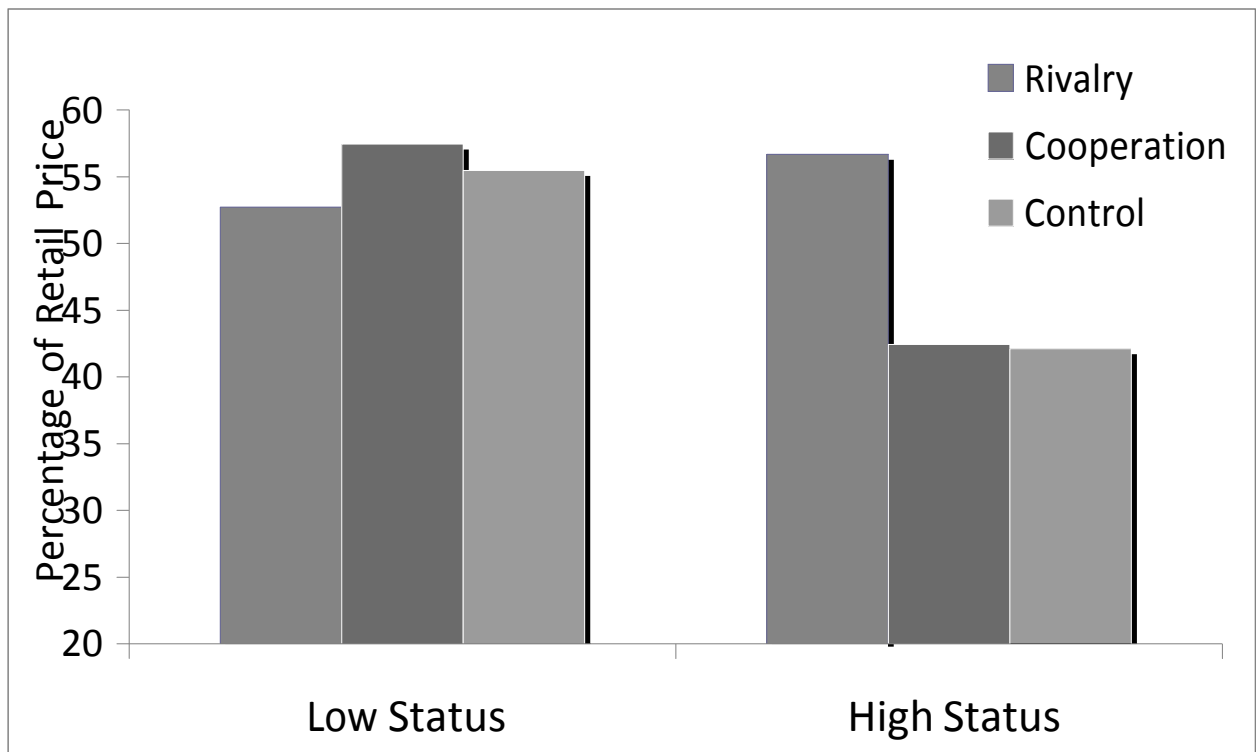


Figure 1. The effects of rivalry condition on willingness to pay (percentage of retail price), as a function of the status associated with the watch.

Mediation. Following the procedures of Baron and Kenny (1986), we conducted a simultaneous regression of willingness to pay on rivalry condition and happiness. First, rivalry condition significantly predicted participants' anticipated happiness from acquiring the high status good, $B = .48, p = .02$. Participants' perception of the extent to which the object provided happiness significantly predicted their willingness to pay, $B = .72, p < .001$, but the rivalry manipulation no longer exerted a significant effect, $B = .19, p = .08$ (see Figure 2). Finally, we found overall significance of the indirect effect (i.e., the path through the mediator), Sobel test = 2.00, $p = .05$, thus indicating that anticipated happiness mediated the relationship between rivalry and conspicuous consumption.

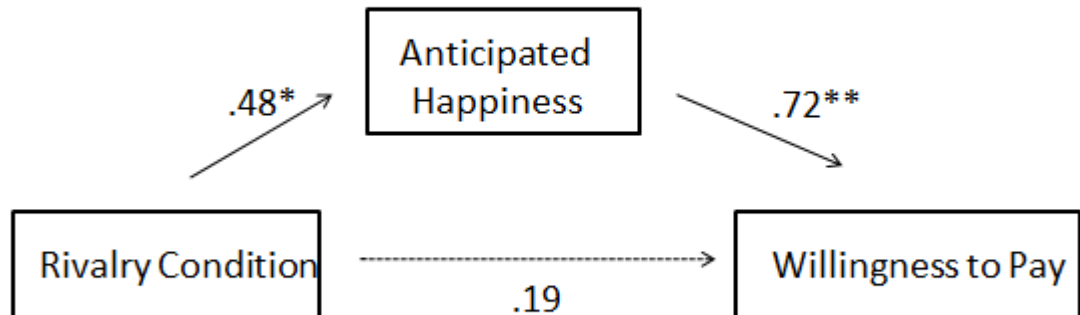


Figure 2. Mediation of rivalry on willingness to pay via anticipated happiness, Study 2. Note—* $p < .05$; ** $p < .01$.

Control Variables. To examine possible alternative explanations, we examined the role of tangible stakes, success, and friendship in predicting the dependent variables. We conducted separate analyses of covariance (ANCOVA) examining the effects of rivalry condition and watch condition on willingness to pay, while controlling for these variables, and again found the significant main effect for watch condition, $F_s > 1$, $ps < .05$, and significant interactions between rivalry condition and watch condition in predicting willingness to pay, $F_s > 1$, $ps < .05$.

Benign and Malicious Envy. We also conducted a one-way ANOVA examining the impact of rivalry condition on the reported benign and malicious envy. There was a significant effect of rivalry on malicious envy, $F(2, 193) = 5.71$, $p = .004$. Follow-up tests revealed that participants in the rivalry condition experienced significantly more malicious envy ($M = 8.76$, $SD = .62$) than did participants in the control peer ($M = 6.79$, $SD = .62$), $t(65) = 3.15$, $p < .01$, or control ($M = 7.10$, $SD =$

.63) conditions, $t(65) = 2.62, p = .02$. The control peer and control conditions did not differ significantly, $t(65) = 0.48, p = .88$. Similarly, there was a significant effect of rivalry on benign envy, $F(2, 193) = 3.71, p = .03$. Follow-up tests revealed that participants in the cooperative peer condition experienced significantly more benign envy ($M = 11.01, SD = 4.14$) than did participants in the control condition ($M = 9.08, SD = 4.02$), $t(65) = 2.72, p = .02$. Participants in the rivalry condition ($M = 10.17, SD = 4.13$) did not significantly differ from either control conditions, $ts < 1, ps < .05$.

Of import, however, including benign and malicious envy in an ANCOVA did not remove the significant interaction between rivalry and object status in predicting willingness to pay, $F(2, 193) = 3.10, p < .05$. Further, neither malicious nor benign envy had effects on willingness to pay for the status watch, $B < .07, p > .49$, and consequently were not examined as potential mediators of the relationship between rivalry and willingness to pay. Thus, the results suggest that rivals do experienced increased malicious envy, but rivalry still predicts willingness to pay for status objects above and beyond the experience of affect.

The results of Study 2 provide further evidence for our prediction that rivalry increases conspicuous consumption. Supporting the role of status, the same product increased rivals willingness to pay, but only when the product was portrayed as unique and scarce and, thus, as having high status (cf., Rucker & Galinsky, 2008). When the watch was represented as relatively common and thus weakly associated with status, rivalry did not influence willingness to pay.

Finally, we found evidence that participants increased their spending limits based on the perception that the product would make them happier. Perhaps

individuals experiencing the advantage of a rival anticipate greater happiness from a status object because of the perception that acquiring a status product will remove the current status imbalance and the associated negative affect.

General Discussion

Over a century ago, William James (1890) posited that material goods play a crucial role in defining the self. Indeed, James suggested that “a man’s Self is the sum total of all that he CAN call his, not only his body and psychic powers, but his clothes and his house...his lands and horses, and yacht and bank-account. All these things give him the same emotions” (James, 1890, p. 291). Despite James’s work being among the most influential in psychology, a surprising lack of empirical work has connected social psychological factors to conspicuous consumption. The current research contributes to this line of research by suggesting that interpersonal rivalries may contribute to the tendency to engage in conspicuous consumption. We argued that a rival’s acquisition of a favorable item would be viewed as a threat to the self and the self’s status and may elicit envy. In order to remove the negative feelings associated with this state, individuals may seek to demonstrate status. Given that products can conspicuously convey status, we predicted that these rivals would be more likely to engage in conspicuous consumption.

Across two experiments, we found evidence consistent with the hypothesis that rivalry would engender conspicuous consumption. In Study 1, participants considered a rival or cooperative peer’s acquisition of an iPad 2—a highly rated and exclusive item. Participants in the rivalry condition had a higher willingness to pay for a conspicuous good (i.e., designer sunglasses), but not a good already possessed by the

rival (i.e., the iPad 2). Rivals also did not demonstrate a higher willingness to pay for goods that did not display status (i.e., a new vacuum, a boat trip of a local lake, a trip to Hawaii, and a concert of the participants' choosing). This preliminary examination provided support for the role of rivalry in generated conspicuous consumption.

One reason for the desire to acquire a *different*, high status object may be social differentiation. It is possible that thinking about a rival engenders a motivation for differentiation from others rather than assimilation. According to Brewer's (1991) model of optimal distinctiveness, individuals' identities are a reconciliation of opposing needs for assimilation and differentiation from others. Further, which need is active is dependent on the characteristics of the social context (e.g., Gaertner et al., 1999). For example, in an intergroup context, the need for assimilation to the in-group may be primary, whereas in an intragroup context, the need for social differentiation may be primary (e.g., Lewis, 2001). Because a threatening source of social comparison can cast doubt on an individual's own distinctiveness and competence (Blau, 1995; Lee, 1997), rivalry may increase the need for successful differentiation from the other. Future research may more closely examine the motivational primacy of the individual self in rivalry.

Another reason that rivals desire social differentiation may be that acquiring a possession or skill after the rival may lead the individual to be labeled a 'follower', which can be a source of stigma to the self or others (e.g., Meindl, 1987). We live in an era that values creativity and novelty, and recycling ideas or products may not be a good self-enhancing strategy. Thus, individuals may (appropriately) fear that acquiring a rival's possessions may acknowledge the rival's superiority and signal deference to

the rival (Menon & Pfeffer, 2003), thus devaluing the self. In other words, people engaged in a rivalry may fear being labeled a “copycat”. Examining the negative feelings associated with acquiring an item or skill after a rival is an area for future exploration.

The results of Study 2 provided further support for our hypothesis that rivalry would increase conspicuous consumption by demonstrating that rivalry increased willingness to pay, but only for a high status product. This finding suggests that a rival’s advantage does not predict spending per se (cf., misery-is-not-miserly effect; Lerner et al., 2004), but rather predicts the consumption of status products. Moreover, the results of the study demonstrated that these effects were mediated by the anticipated happiness of the purchase. Participants in the rivalry condition also experienced significantly more malicious, but not benign, envy than did other participants. However, the experience of malicious envy did not mediate or moderate the relationship between rivalry condition and willingness to pay, though the tendency for malicious envy to predict willingness to pay was marginal, $B = .13, p = .08$. Further, although we anticipated that the aversive experience of malicious envy may lead participants to anticipate greater happiness from acquiring a high status object, malicious envy did not predict anticipated happiness, $B = .04, p = .36$. Thus, the mechanism behind this effect remains uncertain. We propose a working model (see Fig. 3), which suggests that both cognitive and affective factors predict willingness to pay for a status good following rivalry. That is, the envy associated with a rival’s advantage may work in concert with individuals’ perception of a status loss to predict conspicuous consumption. Given that perceptions of status and power are relative

(e.g., Anderson, Srivastava, Beer, Spataro, & Chatman, 2006; Berger, Rosenholtz, & Zelditch, 1980), the status gain conferred by a rival's acquisition may lead to perceived status loss on the part of the individual. Recent research has also promoted a compensatory view of power and status, such that low power and status are aversive states that drive behaviors intended to gain power and status (e.g., Rucker & Galinsky, 2008; Shnabel & Nadler, 2008). Thus, perhaps perceived status loss and envy work together to predict actions aimed at restoring this imbalance, such as acquiring status goods. Future research may explore whether a rival's advantage affects people's perception of how possessing a high status product will affect their own sense of status.

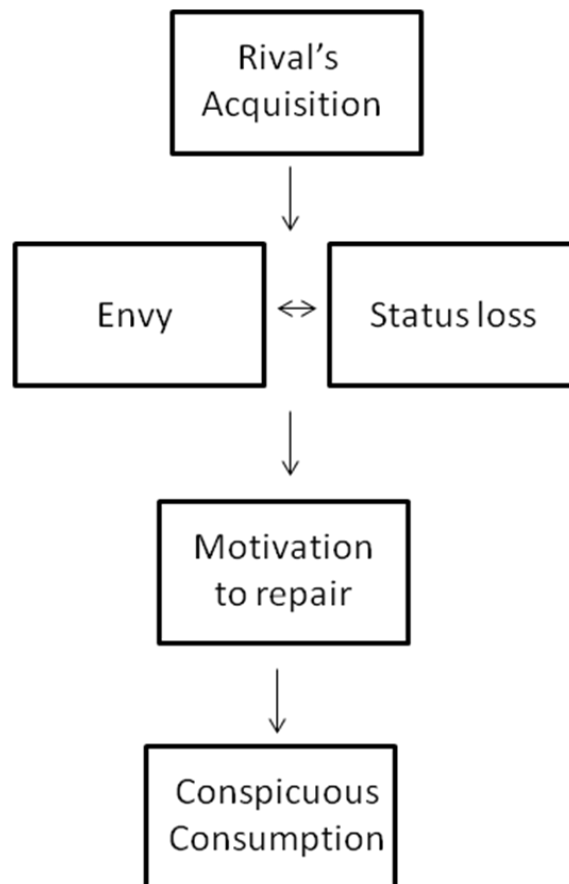


Figure 3. A conceptual model of how rivalry influences conspicuous consumption.

Envy

The results of the current study indicated that participants in the rivalry condition were significantly more likely to experience malicious envy than were participants in either of the control conditions. Prior work by van de Ven et al. (2009) has suggested that malicious envy leads to a pulling-down motivation aimed at damaging the position of the superior other, whereas the experience of benign envy leads to a moving-up motivation aimed at improving one's own position. A main distinction between the types of envy is based upon the presence or absence of hostility, with malicious envy having a component of hostility. In addition, malicious envy is more associated with the experience of resentment, whereas benign envy is more associated with the experience of admiration. Given our suggestion that it is not in an individual's advantage to acknowledge his or her rival's superior position, it is plausible that malicious envy is more likely to occur in the context of rivalry. Malicious envy motivates the individual to reduce the difference between the self and the rival, but also allows the individual to avoid deference to the rival. However, the current study was only a preliminary examination of the relationship between the types of envy and rivalry, and these suggestions are speculative.

Indeed, rivals and control peers did not differ significantly in their experience of benign envy. It is likely that many variables moderate the relationship between rivalry and the types of envy. For example, as stated previously, we do not rule out the possibility of asymmetrical rivalries. In fact, Kilduff et al. (2010) found that many of the NCAA teams perceived rivalries with higher ranked teams—teams which did not

view the lower ranked teams as rivals. Such asymmetrical rivalries may be used for motivational purposes, and given that benign envy is associated with a desire for self-improvement, a consistently superior rival may increase the experience of benign envy. In addition, returning to Tesser's (1988) SEM model, a rival's advantage may lead to benign envy if the rival has accomplished something that is not important to the self. That is, following a rival's success in an unimportant domain, an individual may experience envy because of the nature of the relationship, but because it is not self-threatening, he or she may not be driven to derogate the success.

Implications

Although the current studies took place in a laboratory setting, the results have important practical implications. First, these findings demonstrate how rivalry can steer decisions in important domains of life, such as consumption decisions, that have significant collective consequences (Golub, 2008). The tendency for individuals' need to compete to overtake rational consumption decisions both highlights the challenges involved in reducing overspending on conspicuous goods and may help to explain why current economic incentives, directed at encouraging individuals in debt to increase their savings, have had little success (Engen, Gale, & Scholz, 1996). That is, the motivation to reduce the aversive state associated with faring poorly to a rival may encourage individuals to continuously pour money into unnecessary purchases, even at a cost to the self. Thus, in addition to investigating the consequences of rivalry for the perception of product value, the research may provide a plausible mechanism underlying phenomena like keeping-up-with-the-Joneses. Although research on keeping-up-with-the-Joneses found that people base their needs and wants on what

they lack compared to relevant others (e.g., Frank, 1999), it remained unclear under which conditions these relevant others would exert influence. The current research suggests that a history of competition may be a key aspect in determining whether people are influenced by the possessions of others.

More generally, despite much anecdotal evidence of the power of rivalry, little research has explored its psychological consequences. The current research has the potential to contribute to our understanding of rivalry as a relational phenomenon. Despite the motivational benefits of rivalry, it may lead to non-rational behaviors and result in an actor not achieving the results otherwise possible. Demonstrating the non-rational side of rivalry may suggest that practitioners should be wary about fostering rivalry among employees in the workplace. This empirical evidence is of high importance, given the recent push toward the use of rankings to scale employee performance relative to that of their peers instead of using predetermined task goals (Grote, 2005). Rather than improving performance, such ranking systems may produce rivalries, which could inhibit cooperation among employees and limit employees' willingness to maximize joint gains that will benefit the organization. Further, the current study found that participants who recalled a rivalry were more likely to report experiencing malicious, as opposed to benign, envy. Of import, recent research has linked malicious envy to dishonesty and unethical behavior (e.g., Gino & Pierce, 2009; Moran & Schweitzer, 2008). If workplace rivals experience malicious envy following the other's success, it may lead to a "win at all costs" approach to competition, subsequently increasing the likelihood of unethical behaviors. In contrast, the benign envy experienced by cooperative peers has been found to led to an *increase*

in moral behaviors, as it involves a motivation to “level up” to the other (Polman & Ruttan, 2011).

Limitations

The current research has some limitations that warrant discussion. First, we only asked participants what they would be willing to pay for products, but their decision had no real consequences for them. Thus, although the results suggest that a rival’s favorable acquisition may elicit conspicuous consumption, it remains unclear whether these effects will hold when consumers really expect to pay these prices. Future research may serve to address this limitation by assessing real purchasing decisions. Next, only an iPad 2 was used as the rival’s product. As previously stated, the iPad was chosen because, at the time of data collection, it was a highly desirable and exclusive product, and was unlikely to be currently owned by the participants. Individuals’ product preferences are highly diverse, and although person A may like the iPad 2, person B may not. Using one product, however, allowed for clean manipulations in which all participants read about the same product. Future research should assess whether the current effects will hold for other products acquired by the rival and examine which products are most likely to elicit rivals’ desires to conspicuously consume.

In this vein, one might ask which products or possessions are actually likely to envy and conspicuous consumption? Given research on social comparison (e.g., Tesser, 1988) and conspicuous consumption (e.g., Bearden & Etzel, 1982), we suspect that (a) high status, visible, and (b) self-relevant items or skills will be most likely to elicit the found effects. First, goods cannot be envied unless they are noticed and

exclusive. If the rival in the current study acquired a pencil, it would likely have had no effect on participants because pencils are common and do not represent any particular advantage possessed by the rival. Besides status and visibility, we suspect that high self-relevance could trigger these effects. First, according to Tesser's (1988) Self-Evaluation Maintenance (SEM) Model, for competition to occur, the social comparison must be important to the self. As Tesser's (1988) SEM model posits, feelings of self-worth are enhanced or diminished by others' performance according to (a) the individual's relationship to the other and (b) the personal relevance of the dimension under consideration. Thus, if a rival comes to acquire a personally relevant possession or skill, it may also engender the tendency to engage in conspicuous consumption. For example, if one of two rival faculty members published in a prestigious journal, the other would like experience envy and self-threat. If the other did not see publishing in a similarly high status journal in his or her foreseeable future, conspicuous consumption may be an immediate and visible means of demonstrating status to the other.

Finally, in the introduction, we suggested that rivals loom larger than do regular opponents or one-off competitors. However, the current study did not compare rivals to one-off competitors. Future research should empirically test the difference between rivals and competitors and also examine why such differences exist.

Conclusion

As ubiquitous as both rivalries and consumption are, little was known about how rival relationships influence consumption habits, such as individuals' willingness to pay for high status goods. We have contributed to this gap in the literature by

suggesting that one key contributor to phenomena such as conspicuous consumption and keeping-up-with-the-Joneses may be the existence of rivalries between individuals. We provided initial evidence for this proposition and introduced a theoretical mechanism to explain the relationship between rivalry and consumption. To combat the aversive state of faring poorly compared to a rival, individuals come to prize objects that are likely to reduce the status imbalance between the self and the rival—that is, objects that conspicuously display status. Thus, following a disadvantage, rivals will not sit idly by, but instead will become motivated to buy.

APPENDIX: Experimental Materials

Rivalry Condition

1) Please think back to a time in which you competed against a personal rival (e.g., someone you repeatedly competed against and/or were evenly-matched with). Please spend a few minutes describing this person and the thing(s) you competed on (1 – 2 paragraphs). How did you feel towards this person and while you competed against him or her? Please try to remember and describe this experience as vividly as possible.

[Note that this person should be a specific individual (as opposed to a group of individuals, or someone anonymous) who is not your significant other or a family member.]

2) To what extent did you “succeed” or win in this competition?

1	2	3	4	5	6	7
Not at all						Very much

3) How high were the tangible stakes (e.g., money, career success, grades, athletic success, broader reputational benefits, etc.) associated with this competition?

1	2	3	4	5	6	7
Nothing tangible at stake						Very high

1	2	3	4	5	6	7
Not a friend						My best friend

1) Please think back to a time in which you cooperated with a peer to achieve a goal (e.g., someone you repeatedly work with and/or were evenly-matched with). Please spend a few minutes describing this person and the thing(s) you cooperated on (1 – 2 paragraphs). How did you feel towards this person and while you cooperated with him or her? Please try to remember and describe this experience as vividly as possible.

1	2	3	4	5	6	7
Not at all						Very much

1 2 3 4 5 6 7
Nothing tangible at stake Very high

4) To what extent do you consider this person to be a friend?

1	2	3	4	5	6	7
Not a friend						My best friend

Phase 1 Task

Please enter the individual's name that you previously described in the following text: Imagine a situation in which you come across the other. You are on your way to class, but _____ stops to talk to you. After exchanging hellos, _____ begins to tell you:

"I just got the new iPad 2 and I love it. Once I picked it up, it was hard to put down. Look how small it is? You wouldn't believe that it has two cameras for FaceTime and HD video recording. It has 10 hour battery life and is super fast. You can go online, check email, read books so easily. Anyway, I have to go, but you should really think about getting one..."

Phase 2 Task

In this phase of the study, you will do a Reading Task. During this phase, you will read an excerpt and answer various questions regarding the text. Some questions will ask you to recall the content of the excerpt, while others will assess your opinions on the topic. This task is interesting and educational; you can learn something from doing the task.

Hippo, Warts and Other Thugs of the Genetic Realm

By **NICHOLAS WADE**

If you should ever have a [heart attack](#), Hippo, [Warts](#), Merlin, Yorkie, Scalloped, Shaggy, Frizzled, Dishevelled and Mob-as-[tumor](#)-suppressor may have a lot to do with why you don't get better in a hurry.

These are not characters from a Damon Runyon story but a crew of genes that work together to switch other genes on and off. A team of biologists led by James F. Martin and Todd Heallen of the [Texas A&M System Health Science Center](#) has now found that these genes block the heart from growing new heart muscle cells, at least in mice.

Knock out Hippo, for example, and the mouse's heart grows two and a half times bigger than usual, [they report](#) in Science.

This and other advances, including the discovery this year that [infant mice can regenerate their hearts](#) for the first seven days after birth, is evoking considerable interest among researchers trying to develop new treatments for heart attacks.

The findings “will mark a renaissance of interest in the [genetics](#) of cardiac muscle growth control because of the potential therapeutic applications,” said Michael D. Schneider, a heart biology expert at Imperial College in London.

The reason that heart attacks are so serious is that when a large number of heart muscle cells die, they are not replaced. Yet the heart does slowly generate new muscle cells during a person's lifetime, showing that a growth program is in place. It is firmly repressed, however, presumably to avert the danger of [cancer](#).

Surgeons have tried injecting [stem cells](#) of all kinds into stricken hearts, but despite many clinical trials, there is little evidence that the cells do much good. This setback has led to renewed interest in trying to unlock the heart cells' inherent growth program.

Dr. Martin started with the Hippo gene because it is known to regulate the size of a fruit fly's organs. Fruit fly biologists are often the first to recognize new genes and to work out what they do. The names they confer on genes are colorful and often grotesque because they are inspired by what happens to the fly when you knock out a specific gene from its genome.

If you delete the Hippo gene, the fruit fly grows an enormous head with folded skin around the neck. Hence Hippo.

By engineering a mouse in which Hippo was deleted just in the heart, Dr. Martin's team showed that the chain of genes in which Hippo acts serves as at least one of the natural restraints on the proliferation of heart muscle cells.

Zebra fish can regenerate the tip of the heart when it is cut off. Researchers have recently found the fish can even replace the [scar](#) tissue that forms when muscle cells die, which is often a problem for failing human hearts. The finding that infant mice can also regenerate the heart means that mammals, perhaps including people, may also have this ability, even though it is lost in adults.

If the mouse and zebra fish have some natural way of escaping the Hippo gene's clamp on heart cell growth, it is possible that some drug could be developed that would close down the Hippo pathway in people for a few days after a heart attack, allowing the heart muscle cells to enjoy a much-needed spurt of proliferation.

Dr. Martin said his next step would be to grow adult mice with a disabled Hippo gene and see if they recover faster after a heart attack. He also plans to see if human heart muscle cells grown in a laboratory dish proliferate better if the Hippo pathway is disrupted.

In fruit flies, an organ can produce more cells only if two gene promoters, called Yorkie and Armadillo, get to penetrate the cell's nucleus and switch on the suites of genes required for the cells to grow and divide. But when Hippo is active neither Yorkie nor Armadillo can do its work. The signal that activates Hippo in the fly is called Dachshous, which must first trigger a receptor protein called Fat in the cell's surface. But receptors like Fat can respond to many different signals. So it is not yet clear that the mouse or human counterparts to Dachshous and Fat are the triggers for the effect Dr. Martin's team has seen, Dr. Schneider said.

If the human counterparts are identified, then a drug that blocked them, switching off Hippo, might let heart muscle cells regenerate themselves, leading to a novel and fundamental treatment for heart attacks.

But Hippo, Warts, Merlin and crew would not be part of the story. When mouse researchers look for the counterparts of fruit fly genes in mice, they give them new and duller names. Human geneticists are even more fearful that colorful gene names will create an aura of frivolity that discourages serious grant money. "They ruin it," Dr. Martin said. The gene that fly biologists call *Ménage-à-trois 1* is called *MAT 1* by human geneticists. The poetically named *Son-of-Sevenless* in flies is the prosaic *SOS 1* in people. As for Hippo, mouse researchers have already decolorized it to *MST 1*.

Article from the New York Times (April 25, 2011)

http://www.nytimes.com/2011/04/26/science/26heart.html?_r=1&ref=science

Phase 2 Questionnaire

1. According to the author, what happens when the Hippo gene is removed:
 - a) The heart grows in size
 - b) The heart shrinks in size

c) The gene has no effect on heart size

Please indicate your agreement with the following statements:

2. In general, the above passage was well written.

1	2	3	4	5	6	7
Not at all						Very Much

3. Many people would be interested in reading this story.

1	2	3	4	5	6	7
Completely Disagree						Completely Agree

4. The government should increase funding of genetic research.

1	2	3	4	5	6	7
Completely disagree						Completely agree

5. Genetic research has made substantial strides in recent years.

1	2	3	4	5	6	7
Completely disagree						Completely agree

1. Gene names should be kept 'uncolorful'.

1	2	3	4	5	6	7
Completely disagree						Completely agree

Study 2

In this study, please indicate your preferences for various products. Now, imagine that you have decided to treat yourself. Below are items that you might consider purchasing.

What is the maximum amount of money you would be willing to pay for a pair of designer sunglasses?

What is the maximum amount of money you would be willing to pay for an all-inclusive trip to Hawaii?

What is the maximum amount of money you would be willing to pay for an iPad 2?

What is the maximum amount of money you would be willing to pay to go to the concert of your choice?

What is the maximum amount of money you would be willing to pay for a new upright vacuum cleaner?

Post Questionnaire

A. Please indicate your agreement with the following statements:

The iPad2 is a desirable product.						
1	2	3	4	5	6	7
Strongly						Strongly
Disagree						Agree
The iPad2 will be important to have.						
1	2	3	4	5	6	7
Strongly						Strongly
Disagree						Agree
The iPad 2 is overrated.						
1	2	3	4	5	6	7
Not at all						Very
						Much

B. Study Purpose

If you think that you can guess what this study was about, please write it on the lines below.

C. Personal Identification

Net ID: _____

Student ID#: _____

D. Demographics

1. Your year in college: ____Freshman ____Sophomore ____Junior ____Senior

2. You are: ____Male ____Female

3. Your birth year: 19____

4. Your ethnic identity (if multiple try to select the one you identify most strongly with)?

____African-American/Black

____Asian-American/Asian

____European-American/White
____Native American
____Other (please specify) _____

____East Indian
____Hispanic/Latino/Chicano

Study 2

Control Condition

Phase 1 Task

1) Please describe what you did yesterday. Please spend a few minutes describing the day, the things you did, and the events that occurred (1 – 2 paragraphs). Please try to remember and describe this experience as vividly as possible.

Phase 1 Task

Please imagine the following encounter:

You are on your way to class, but _____ stops to talk to you. After exchanging hellos, he or she begins to tell you:

“I just got the new iPad 2 and I love it. Once I picked it up, it was hard to put down. Look how small it is? You wouldn’t believe that it has two cameras for FaceTime and HD video recording. It has 10 hour battery life and is super fast. You can go online, check email, read books so easily. Anyway, I have to go, but you should really think about getting one...”

A. Please rate the extent to which you felt each of the following while reading the above dialogue:

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